

11 SEPTEMBER 1961

DECLASS REVIEW by NIMA/DOD

SUBJECT: BI DIRECTIONAL COUNTER (PIGMI II)
MONTHLY PROGRESS REPORT No. 7.

REFERENCE: STATINTL

GENTLEMEN:

STATINTL

1.0 INTRODUCTION

1.1 IN COMPLIANCE WITH THE REQUIREMENTS OF THE SCHEDULE, TASK ORDER No. 1, PARAGRAPH 2 ENTITLED REPORTS OF THE SUBJECT CONTRACT, WE HEREBY SUBMIT OUR MONTHLY PROGRESS REPORT No. 7. THIS REPORT COVERS THE REPORTING PERIOD FROM 25 JULY 1961 TO 25 AUGUST 1961 ON THE DESIGN AND FABRICATION OF PIGMI II DESCRIBED IN DESIGN SPECIFICATIONS DS-1157A.

1.1 THE COUNTER SYSTEM CONVERTS A SHAFT ROTATION INTO DIGITAL FORM. THIS DIGITAL INFORMATION CAN BE STORED ON EITHER OR BOTH, TYPER (MODEL C IBM) OR KEYPUNCH (024, 026, 526 IBM).

2.0 OBJECTIVES OF THE COUNTER SYSTEM.

2.1 THE COUNTER SYSTEM IS INTENDED FOR USE AS THE OUTPUT FOR THE IT CAN ALSO BE USED AS AN ORDINARY COUNTER BY APPLYING EXTERNAL PULSES AS AN INPUT.

2.2 READOUT CAN BE ACCOMPLISHED REMOTELY BY MEANS OF A PUSH BUTTON.

3.0 CONFORMITY OR NONCONFORMITY TO WORK SCHEDULE

3.1 PERFORMANCE OF THE SYSTEM DURING FINAL TEST PRODUCED UNSATISFACTORY RESULTS. FAILURE TO MEET SPECIFICATIONS HAS RESULTED IN DELAY OF THE PREVIOUSLY QUOTED DELIVERY OF 7 AUGUST 1961.

4.0 SUMMARY OF WORK PROGRESS COMPLETED DURING THE PERIOD 25 JULY 1961 TO 25 AUGUST 1961.

4.1 EVALUATION TESTS ON THE LARR AND PIGMI WERE CARRIED OUT FOR A PERIOD OF APPROXIMATELY 10 DAYS.

4.2 THE RESULTS OF THESE TESTS PROVED THAT THE FOLLOWING MAJOR PROBLEMS EXISTED:

4.2.1 CONSIDERABLE NOISE IN THE PIGMI UNIT CAUSED FALSE COUNT PULSES.

[REDACTED]
PROGRESS REPORT No. 7

4.2.2 INCREASED NOISE CONDITION APPEARED IN THE PIGMI WHEN OPERATED WITH THE LARR.

4.2.3 WHEN THE PIGMI WAS COUPLED WITH THE LARR, THE COUNTER POSITION AND SIGN CHANGED DURING READOUT WITHOUT ANY CONSISTANT PATTERN.

4.2.4 PRESET CIRCUITRY ON THE PIGMI WAS FOUND TO BE UNRELIABLE.

4.3 A CONCENTRATED EFFORT BY THE PROJECT TEAM TO CORRECT THE ABOVE PROBLEMS FAILED TO PRODUCE ANY SIGNIFICANT RESULTS. SOME IMPROVEMENT IN REDUCING NOISE SENSITIVITY WAS EXPERIENCED AFTER REVISING THE BASIC COUNTER CIRCUITRY AND SIGN CIRCUITRY AND SHIELDING OF THE LARR CABLES. A RE-DESIGN OF THE PRESET CIRCUITRY FOR GREATER RELIABILITY WAS SUCCESSFUL.

4.4 AN ADDITIONAL SYSTEMS TEST WAS MADE ON 22 AND 23 AUGUST TO DETERMINE THE EFFECT OF THE REVISIONS. HOWEVER, THE RESULTS OF THIS TEST PROVED THAT THE SYSTEM DID NOT OPERATE WITHIN SPECIFICATIONS.

5.0 WORK TO BE ACCOMPLISHED DURING THE NEXT REPORTING PERIOD.

5.1 A THOROUGH INVESTIGATION INTO EXISTING COUNTER WILL BE MADE TO DETERMINE CONCLUSIVELY THE CONCEPT OF THE DESIGN AS A RELIABLE PART OF THE OVERALL SYSTEM.

5.2 IN CONJUNCTION WITH 5.1 A STUDY WILL BE MADE TO DETERMINE THE NECESSITY OF REDESIGNING THE ENTIRE COUNTER CIRCUITRY.

5.3 THE RESULTS OF 5.1 AND 5.2 ARE SCHEDULED FOR PRESENTATION TO THE CONTRACTING OFFICER BY 1 OCTOBER 1961. DELIVERY OF THE SYSTEM WILL BE BASED ON THESE FINDINGS.

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CC: [REDACTED]
CONTRACTING OFFICER